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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/681,953	06/29/2001	Nelson Raymond Corby JR.	RD-27700	1038

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EXAMINER	
PAIK, STEVE S	

ART UNIT	PAPER NUMBER
2876	

DATE MAILED: 01/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/681,953	CORBY, NELSON RAYMOND	
	Examiner	Art Unit	
	Steven S. Paik	2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-10 and 12-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-10,12-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Response to Arguments

1. In view of the Supplemental Appeal Brief filed on October 2, 2003, PROSECUTION IS HEREBY REOPENED. New grounds of rejections are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 7-9, 12-15, and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Siegal (US 4,132,976).

Regarding claim 1, Siegal discloses a marking system comprising at least one multiplicity of machine-detectable marks (Fig. 2) arranged in accordance with a two-dimensional redundant bit patterns (three-by-three array of circles 62), said at least one multiplicity of marks having an

appearance to human vision resembling a first character ("A" as an example; Fig. 2), and said two-dimensional redundant bit patterns, comprising a repeating pattern of a bit string (binary 1's and 0's; col. 3, ll. 1-46) forming a respective machine readable code corresponding to at least one character (col. 4, ll. 19-42).

Regarding claim 2, Siegal discloses the system as recited in rejected claim 1 stated above, further comprising a plurality of respective multiplicities of machine-detectable marks (Fig. 2) arranged in accordance with the two dimensional redundant bit patterns, each of said respective multiplicity of marks (Fig. 1) having an appearance to human vision resembling a respective character (col. 4, ll. 19-42).

Regarding claim 3, Siegal discloses the system as recited in rejected claim 2 stated above, further comprising machine detectable respective spatial registration indicators (64 and 68 in Fig. 2) placed such that each of said respective multiplicities of machine-detectable marks are combinable by aligning said respective spatial registration indicators such that said respective combined multiplicity of marks remain machine detectable (col. 3, line 47 - col. 4, line 2).

Regarding claim 4, Siegal discloses the system as recited in rejected claim 1 stated above, where the machine-detectable marks comprises dots (circles) superimposed on an optically contrasting background (such as paper sheet).

Regarding claim 7, Siegal discloses a marking system comprising a plurality of human readable characters (Fig. 2) formed in respective areas (box 60 in Fig. 2) containing arrays (three-by-three array of circles) of machine detectable marks (circles 62), each of said arrays of machine detectable marks arranged in accordance with a two-dimensional redundant bit patterns (col. 3, ll. 1-67), each of said arrays of machine detectable marks in said respective areas having

shapes indicative of said human-readable characters (col. 4, ll. 3-42; Fig. 2), and each of the two-dimensional redundant bit patterns comprising a repeating pattern of a bit string (binary 1's and 0's) forming respective machine detectable codes corresponding to said human-readable characters.

Regarding claim 8, Siegal discloses the system as recited in rejected claim 7 stated above, further comprising machine detectable respective spatial registration indicators (64 and 68 in Fig. 2) placed such that each of said respective multiplicities of machine-detectable marks are combinable by aligning said respective spatial registration indicators such that said respective combined multiplicity of marks remain machine detectable (col. 3, ll. 47-67).

Regarding claim 9, Siegal discloses the system as recited in rejected claim 7 stated above, where the machine-detectable marks comprises dots (circles 62) superimposed on an optically contrasting background (paper).

Regarding claim 12, Siegal discloses a marking system comprising a part comprising:

a plurality of respective multiplicities of machine-detectable marks (Fig. 2) arranged in accordance with a two-dimensional redundant bit patterns (circles 62), each of said respective multiplicities of marks having an appearance to human vision resembling a respective character (col. 4, ll. 19-42; Fig. 2), and said two-dimensional redundant bit patterns comprising a repeating pattern of bit string (binary 1's and 0's) forming respective codes corresponding to said reflective character ("A" in Fig. 2; col. 3, line 47- col. 4, line 2);

an imager (scanner which inherently comprises, among other things, photosensitive devices 14, 16, and 18 in Fig. 1) for imaging an area of the part occupied by the marks to produce electrical signals having characteristics which allow discrimination between electrical

signals derived from imaging of marks and electrical signals derived from imaging of areas outside of marks (col. 2, line 52-col. 3, line 21); and

a computer (scanning arrangement in Fig. 1) programmed to derive the first and second codes from the electrical signals outputted by the imager (col. 2, line 36-col. 3, line 46).

Regarding claim 13, Siegal discloses the system as recited in rejected claim 12 stated above, where said computer is programmed to perform the steps of:

digitizing (...three array has accordingly been converted into digital form; col. 3, lines 1-5) the acquired image to form respective bit maps comprising bits corresponding to each of said respective human-readable character-shaped array of machine-detectable marks (col. 4, ll. 19-46);

spatially registering said respective bit maps (via the marks 64 and 68 and three-by-three array of circles in Fig. 2);

forming a union of said respective spatially registered maps (Fig. 2); and

detecting bit strings, corresponding to said respective codes in the composite bit map resulting from the union of each of said spatially registered respective bit maps (via the scanning arrangement disclosed in Fig. 1).

Regarding claim 14, Siegal discloses the data representation as recited in rejected claim 13 stated above, further comprising machine detectable respective spatial registration indicators (64 and 68 in Fig. 2) placed such that each of said respective multiplicities of machine-detectable marks are combinable by aligning said respective spatial registration indicators such that said respective combined multiplicity of marks remain machine detectable (col. 3, ll. 56-66).

Regarding claim 15, Siegal discloses the system as recited in rejected claim 12 stated above, where the machine-detectable marks comprises dots (circles 62) superimposed on an optically contrasting background (paper).

Regarding claim 17, Siegal discloses a method of marking a material comprising steps of:

forming respective human-readable characters (alphanumeric characters in Fig. 2) in respective areas (a box 60) on the part by applying respective arrays of machine-detectable marks (three-by-three array of circles 62) arranged in two-dimensional redundant bit patterns, each of said respective arrays of machine-detectable marks having respective shapes indicative of the respective human-readable characters (col. 3, ll. 46+ and see Fig. 2), and said two-dimensional redundant bit patterns comprising a repeating pattern of respective bit string (binary 1's and 0's) forming respective codes corresponding to each of said respective human-readable characters (col. 4, ll. 19-46).

Regarding claim 18, Siegal discloses a method of marking a material comprising the following steps:

marking a part (paper) with respective human-readable character-shaped (alphanumeric characters in Fig. 2) arrays of machine-readable marks;

acquiring an image of the part marking (via a scanner arrangement in Fig. 1);

digitizing (col. 3, line 4-5) the acquired image to form respective bit maps comprising bits corresponding to each of said respective human-readable character-shaped array of machine-detectable marks (col. 3, ll. 47+);

spatially registering said respective bit maps (col. 3, ll. 56-67);

forming a union of said respective spatially registered maps; and

decoding the composite bit map resulting from the union of each of said respective the spatially registered bit maps to identify the part (via the scanning arrangement in Fig. 1).

Regarding claim 19, Siegal discloses a system for identifying parts comprising:

a part (paper) marked with respective human-readable character-shaped (alphanumeric characters in Fig. 2) arrays of machine-detectable marks;

an imager (a scanning arrangement in Fig. 1) acquiring an image of the part marking; and

a computer programmed (Fig. 1) programmed to perform the following steps:

digitizing (col. 3, lines 4-5) the acquired image to form respective bit maps comprising bits corresponding to each of said human readable character-shaped array of machine-readable marks (col. 4, ll. 19-46);

spatially registering each of the respective bit maps (col. 3, ll. 56-67);

forming a union of said respective spatially registered maps; and

decoding the composite bit map resulting from the union of the spatially registered bit maps to identify the part (via the scanning arrangement in Fig. 1).

Regarding claim 20, Siegal discloses the system as recited in rejected claim 19 stated above, where the machine-detectable marks comprises dots (circles 62) superimposed on an optically contrasting surface of the part (paper).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 5, 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siegal (US 4,132,976) in view of Thomas (US 4,263,504).

Regarding claims 5, 10, and 16 Siegal discloses all the claimed features of the invention with the exception of specifically disclosing that said code is ASCII code. Instead, Siegal discloses an ASTI binary code system for alphanumeric characters.

Thomas discloses incorporating the ASCII coding scheme to represent alphanumeric characters (col. 6, ll. 42-48). As appreciated by an artisan having ordinary skill in the art, ASCII coding scheme is well known and conventionally used for coding alphanumeric characters up to 256 characters (extended ASCII codes) for communications among computing machines such as a computer.

In view of Thomas teaching, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to further employ the ASCII coding scheme in addition to the teachings of Siegal due to the fact that increased acceptance of the coding system can be achieved for the purposes of expanding its applicability. Furthermore, such modification of employing the ASCII coding scheme to the teachings of Siegal would have been an obvious matter of design variation, well within the ordinary skill in the art, and therefore an obvious expedient.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven S. Paik whose telephone number is 571-272-2404. The examiner can normally be reached on Mon - Fri (5:30am-2:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on 571-272-2398. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1551.

Steven S. Paik
Examiner
Art Unit 2876

ssp
January 3, 2004

MICHAEL G. LEE
SUPERVISORY PATENT EXAMINER
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